

Title (en)
SYSTEM AND METHOD FOR MAINTAINING A TOOL POSE

Title (de)
SYSTEM UND VERFAHREN ZUR AUFRECHTERHALTUNG EINER WERKZEUGPOSITION

Title (fr)
SYSTÈME ET PROCÉDÉ DE MAINTIEN D'UNE POSE D'OUTIL

Publication
EP 3119342 A4 20171115 (EN)

Application
EP 15765922 A 20150317

Priority
• US 201461954261 P 20140317
• US 201462024887 P 20140715
• US 2015021089 W 20150317

Abstract (en)
[origin: WO2015142943A1] A system and method of maintaining a tool pose for a computer-assisted medical device with an articulated arm including one or more first joints and one or more second joints, a tool distal to the first joints and the second joints, and a control unit coupled to the first joints and the second joints. The control unit maintains a pose of the tool during movement of the first joints using the second joints by determining a reference coordinate frame for the tool, determining a reference transform of the tool in the reference coordinate frame prior to the movement of the first joints, determining an actual transform of the tool in the reference coordinate frame while the first joints are being moved, determining differences between the reference transform and the actual transform, and maintaining the pose of the tool by driving the second joints based on the differences.

IPC 8 full level
A61B 34/30 (2016.01); **A61B 34/00** (2016.01); **A61B 34/20** (2016.01)

CPC (source: EP KR US)
A61B 1/00149 (2013.01 - US); **A61B 34/30** (2016.02 - EP KR US); **A61B 34/35** (2016.02 - KR); **A61B 34/70** (2016.02 - KR US); **B25J 9/1607** (2013.01 - US); **B25J 9/1633** (2013.01 - KR US); **A61B 2017/00017** (2013.01 - US); **A61B 2034/2059** (2016.02 - US); **A61B 2034/301** (2016.02 - US); **A61B 2034/304** (2016.02 - US); **A61B 2034/305** (2016.02 - US)

Citation (search report)
• [I] US 2011276059 A1 20111110 - NOWLIN WILLIAM C [US], et al
• [I] EP 1234641 A1 20020828 - YASKAWA DENKI SEISAKUSHO KK [JP]
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• See also references of WO 2015142943A1

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Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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WO 2015142943 A1 20150924; CN 106102645 A 20161109; CN 106102645 B 20190621; CN 106132345 A 20161116; CN 106132345 B 20190531; CN 110192919 A 20190903; CN 110192919 B 20221125; CN 110251233 A 20190920; CN 110251233 B 20230203; EP 3119333 A1 20170125; EP 3119333 A4 20171213; EP 3119333 B1 20210505; EP 3119342 A1 20170125; EP 3119342 A4 20171115; EP 3119342 B1 20210512; EP 3868326 A1 20210825; JP 2017514542 A 20170608; JP 2017514543 A 20170608; JP 2019141721 A 20190829; JP 2022001313 A 20220106; JP 2023107953 A 20230803; JP 6537523 B2 20190703; JP 6660302 B2 20200311; JP 6961646 B2 20211105; JP 7297841 B2 20230626; KR 102334980 B1 20211206; KR 102397402 B1 20220513; KR 102470468 B1 20221125; KR 102541266 B1 20230613; KR 20160132849 A 20161121; KR 20160133478 A 20161122; KR 20210151244 A 20211213; KR 20220065092 A 20220519; KR 20230084610 A 20230613; US 10064689 B2 20180904; US 10070931 B2 20180911; US 10575910 B2 20200303; US 10610316 B2 20200407; US 11129684 B2 20210928; US 11707337 B2 20230725; US 12004833 B2 20240611; US 2017172670 A1 20170622; US 2017181806 A1 20170629; US 2018338808 A1 20181129; US 2018344417 A1 20181206; US 2020146764 A1 20200514; US 2021353378 A1 20211118; US 2023310105 A1 20231005; WO 2015142947 A1 20150924

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US 2015021089 W 20150317; CN 201580014405 A 20150317; CN 201580014636 A 20150317; CN 201910479431 A 20150317; CN 201910500430 A 20150317; EP 15765353 A 20150317; EP 15765922 A 20150317; EP 21166255 A 20150317; JP 2016557122 A 20150317; JP 2016557131 A 20150317; JP 2019104259 A 20190604; JP 2021167946 A 20211013; JP 2023097962 A 20230614; KR 20167025259 A 20150317; KR 20167027598 A 20150317; KR 20217039249 A 20150317; KR 20227015585 A 20150317; KR 20237018622 A 20150317; US 2015021097 W 20150317; US 201515125533 A 20150317; US 201515126983 A 20150317; US 201816052555 A 20180801; US 201816101328 A 20180810; US 202016743218 A 20200115; US 202117389243 A 20210729; US 202318330438 A 20230607